INFO requested for Peter - Proposed Path Forward for Elyria Copper Calciners

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TITLE 5 PERMIT MODIFICATION PROPOSAL
Copper Calciner 1 ONLY

- Copper Calciner 1 P006
  - Add NOX on the contaminant list @ <10 lb/day. 10 lb/day max is deminimus.
  - Adjust maximum discharge rate to 350 lb/h. I believe 1000 lb/h is current limit based on maximum Particulate Matter (PM) contaminant.
  - Timing for permit approval 1- 6 months

- Finished Products impacted by rate limitation (CuCr products only)

Calcined CuCr Powder	Finished Product	Anticipated Overall Throughput Change
Cu 1800 P	Cu 1800 P	Minimal
Cu 1803 P	Cu 1808 T1/8 Shell	Minimal
Cu 1820 P	Cu 1886P (when blended with Cu 1885P)	30% Decrease
Cu 1885 P	Cu 1885 P and Cu 1886 P (when blended with Cu 1820 P)	30% Decrease
Cu 1950 P	Cu 1950 P	30% Decrease
Cu 1955 P	Cu 1955 P	30% Decrease
Cu 0396 P	Cu 0396 P	30% Decrease
Cu 1160 P	Cu 1230 E 1/16 3F RS; Cu 1155 T 3/16 RL; Cu 1155 T 3/16X1/8 RL	Minimal
[illegible]	[illegible]	[illegible]

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Other Administrative Controls
Proposed plans for Copper Calciner 2

- Copper Calciner 2 P005
  - No permit changes
  - Schedule only NOX-free products on this calciner: Cu oxide precursors, Cu-0202 P, Cu-0203 T precursors
  - Calciner will be <25% utilized with these products only
- All NOx-generating non-Cr powders to be calcined on RC5 w/Trimer scrubber: Cu-6081, Cu-5020 / FT-BYD, and precursor for X-540 T
- Also, qualify above products at toller PPT
  - Cu-6081 – already qualified and producing
  - Cu-5020 / FT-BYD, and X-540T powder precursor – qualification work in progress; high likelihood of success
  - Do not transfer CuCr products due to Cr+6 exposure (PPT has less than adequate dust control)
- Consider transferring Catoxid 5 [NOx-free, Cr] from RC5 to Copper Calciner 2. Customer requirement ~200mt per year.
  - Capital needed for powder feed system and retort tube for high temp application for Copper Calciner 2.
  - Initial work done on Tectonic Project for RC5 was put on hold, ~$1.4mm +/-50% (preliminary engineering needed to define scope, estimate, and timing)

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